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A

STATEMENT

OF

THE EARLY SYMPTOMS

Which lead to the Disease termed

WATER IN THE BRAIN;

WITH

OBSERVATIONS

ON THE

NECESSITY OF A WATCHFUL ATTENTION TO THEM,

AND ON THE

FATAL CONSEQUENCES OF THEIR NEGLECT:

IN

A LETTER

To MARTIN WALL, Esq. M.D.

Clinical Professor at Oxford, &c. &c.

By G. D. YEATS, M.D.

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OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON; OF THE ROYAL MEDICAL SOCIETY, EDINBURGH;
LATE PHYSICIAN TO THE LUNATIC ASYLUM AND INFIRMARY OF THE COUNTY, AND PHYSICIAN TO HIS GRACE THE DUKE OF BEDFORD.

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A LETTER,

&c. &c.

DEAR SIR,

IN a conversation which I had the pleasure to hold with you on the nature and symptoms of the disease which is the subject of the present Letter, you assented to the propriety of putting parents on their guard by calling their attention to those early symptoms, the antecedents of the disease, which, when neglected, misunderstood, or overlooked, too often lead to that fatal complaint, termed Water in the Brain.

Having frequently witnessed, during the course of many years practice, the fatal consequences arising from the friends of young sufferers being lulled into a false security, by the apparent mildness and equivocal nature of these very early symptoms, it appeared a desirable object to point out, not only what these are, but to inculcate the absolute necessity of watching their increase, and of checking their progress, with whatever apparent mildness their existence may be marked.

I beg the remarks may be considered as chiefly applicable to children, from two to twelve years of age; during which interval this disease most commonly occurs, although I have witnessed it at maturer periods of life.* Precautionary atten-

* Several years ago, I saw a young woman of twenty-three years of age, about a week before she fell a victim to this complaint. On dissection, water was found in the ventricles of the brain, and its vessels were turgid with blood.

tion is more necessary during this period, on account of the inattention of children in stating their complaints. With infants at the breast and under two years of age the disease also occurs; and here the difficulty is great in detecting the advances of the complaint, before it has arisen to an alarming extent: the appearances of the countenance, of the evacua-

About a year after, her sister, two years younger, was similarly attacked, and was saved by her having observed the earlier symptoms, which by neglect had, in progress, proved fatal to her elder sister. See Dr. Baillie's case of a gentleman, aged fifty-six, Med. Trans. vol. iv. This case appears to have partaken a good deal of the nature of serous apoplexy; it is probable, the effusion into the ventricles took place about the period of the comatose state, immediately previous to death: see Dr. Baillie's concluding remarks, Sauvages, vol. i. p. 848. Dr. Huck's cases, communicated to Dr. Fothergill, Med. Obs. vol. iv. p. 55. Dr. Lettsom says he has seen the disease at all ages under sixty; Med. Memoirs, vol. i. p. 179. Med. and Phys. Journal, vol. xv. for the case of a widow lady fifty-three years of age; blood vessels of the membranes turgid with dark blood—dura mater firmly attached to the skull on the right side—the brain here of a greyish black, and putrified—ten ounces of clear lymph in the ventricles.

tions, the different expressive features of the child with its manner, to which I may add the absence of certain symptoms usually attendant on infantile disorders, will guide the physician conversant with the signs of the approaches of this disease, in forming his decision. And here you will, I think, agree with me in the observation, that great advantage is to be derived by attending to, what I may be permitted to call, the medical geography of the countenance; an attention to the variation of the features, as expressive of different kinds of pain, is of considerable consequence in assisting to detect diseases, in those particularly who are unable to detail their symptoms. I am sure that an experienced and attentive physician, like yourself, will be very frequently able to enumerate the symptoms of a patient, from observing him. In infants, from whom our information

must at all times be very imperfect, an auxiliary acquirement of this kind is of primary magnitude.

An attention to the early signs and insidious approaches of Water in the Brain, becomes also a matter, perhaps, of greater importance in another point of view; not only from the equivocal nature of these symptoms, but from their being frequently common to other diseases; thus deceiving the hasty examiner, until the chain of actions, constituting the disease, is so fully formed, as not to be misunderstood; and the alarm is taken, at a time when our art either altogether fails, or with the greatest difficulty, anxiety, and suffering, succeeds in establishing a cure. I am the more desirous of securing the attention, thus early, to these symptoms, on account of the impression which a treatise lately published on this subject, is likely to make, as coming from an

able and highly respectable quarter.* Although I perfectly agree with the intelligent author, that persons conversant with this disease, will seldom be mistaken in their diagnosis; yet, experience teaches us, that from the great similarity of the symptoms to those of diseases produced by other causes, errors will frequently occur, without the closest attention, watchfulness, and observation. I speak from observation on a number of cases; but, if we are to wait until the general system becomes greatly disordered by the affection of the brain, to form a decided diagnosis, I fear we shall often be disappointed in the wished-for effects of our prescriptions, however ardently desired,

* A Treatise on Hydrencephalus, or Dropsy of the Brain, by James Carmichael Smyth, M. D. I readily adopt the ingenious author's change of the name, from the evident propriety of it. Dr. Fothergill was not satisfied with the name Hydrocephalus—it was not sufficiently appropriate. Works by Lettsom, p. 273.

or however judiciously directed. Experience points out to us, the approaches of this distressing disease, long before this period. If, also, we proceed upon the principle, that this is a disease of the head only, we shall be exposed to constant disappointment in our practical expectations, and to unavailing regret for the commission of errors.*

The advantages derivable from immediately attacking an approaching disease have never been disputed, and have given rise to trite, but just, maxims in the schools of physic;—

* See Dr. Warren's (of Taunton) communications; Lond. Med. Journal, vol. ix. p. 122. for the imitation of the symptoms of hydrencephalus from the irritation of foul bowels, particularly the case, p. 130, in which, under the idea of hydrencephalus, mercurial ointment was used without mercury internally, very unfortunately, as Dr. Warren observes, for on dissection, no disease was found in the head; but the bowels were filled with viscid matters, blended with an unusual quantity of bile; they were likewise, in many places, in a state of inflammation. Mr. Abernethy mentions a similar case; Surgical Observ. p. 193.

For want of timely aid,
Millions have died of medicable wounds.

But, however great the advantages may be, which are felt from an attention to the early signs of approaching disease, they are of much greater importance and the necessity of such watchful attention is more indispensable, Sir, in a curative point of view, on the subject of the present letter; in as much as, with all other diseases, in which our art is at all available, a cure may be effected in almost any of the subsequent stages.

With the first train of symptoms which form the ground work of the future disease of Water in the Brain, our practice must commence; otherwise, we shall very often visit our patient only to lament the inefficacy of our prescriptions, and to watch the inevitable progress to death. There is no doubt, Sir, and your experience will also confirm the fact, that there is

considerable difficulty in certainly and absolutely determining that, except the very early train of symptoms, to which I allude, be subdued, they will positively end in Water in the Brain. This, however, I can very safely say, that I have very frequently known such symptoms to terminate this way when neglected in the onset; and, from experiencing the dangerous consequences of such neglect, I have, when fortunate enough in having the opportunity, often prevented this secondary fatal state, by the adoption of timely and proper means.

It has been, indeed, but recently, that this disease has been at all understood, and a more consistent pathology, in consequence, adopted. It has been ranked in the list of incurable diseases, and indeed, if the diseased actions are suffered to make progress, until the affection of the head becomes the most painful and

most prominent feature in the catalogue of symptoms, we must still consider the complaint, though not always, yet very often, as one upon which no permanent salutary impression is to be made. The idea, however, of the incurable nature of the disease, has arisen from the early symptoms not having been understood, from their being too commonly considered as the trifling ailments common to children unconnected with what subsequently occurs; and from the appearance of these symptoms at times, at distant intervals, with apparently intervening health, before the very formidable signs of an affected brain supervene. It has thus happened, that attention was not paid to the complicated nature of the complaint, till the affection of the head exhibited the deplorable condition of the patient, and even then, it was often not seen until dissection demonstrated the morbid appearances in the

brain. By this oversight of the early progressive connection of symptoms, and by the mind being entirely occupied on account of the distress expressed by the patient of great suffering in the head towards the conclusion of life, the brain became the only object of enquiry; and from abundant disease being found there, the original symptoms were overlooked or forgotten. Hence the complaint was considered as a disease of the head only, beginning and ending there.* No active and steady practice was pursued, until the effects of the original symptoms were produced upon the brain, when, as books pretty fully and lamentably inform us, the disease most generally proved fatal.

My attention, Sir, was particularly di-

* Dr. Rush, in his account of the dissection of persons dying of this disease, states the appearances of the brain only. Med. Obs. and Inq. by Benjamin Rush, M. D. vol. ii. See Philadelph. Trans. p. 83. Also Observations on the Dropsy of the Brain, by Robert Whytt, M. D. p. 24.

rected to the consideration of this complaint, at the desire of a distinguished Individual, in the very earliest period of my professional career, in consequence of a loss sustained in his family by this disease. It has, more or less, occupied my mind ever since; and sixteen years of observation, in pretty extensive practice, both hospital and private, have afforded many opportunities of witnessing the necessity of immediate attention, to the very first link in the chain of diseased actions producing the complaint. I am sure you will agree with me in saying, that I cannot too strongly, or in too forcible language, press the necessity of such attention upon the minds of all. "For "this disease, which unfortunately he "too often meets with, the physician "must ever be on the watch. He ought "never to hear a child complain of head-"ach, without procuring the history pre-

" vious to this complaint, and comparing
" it with every ambiguous symptom. The
" chance of cure is nearly in proportion
" to the duration of the symptoms; if
" early discovered, although a very dan-
" gerous, it ought not to be held an in-
" curable disease. After what has been
" just written, I need hardly add, that I
" act upon a principle different from that
" laid down by some authors, and seve-
" ral physicians with whom I have con-
" versed. While there is a doubt, that
" is, until the disease is in a hopeless
" form, they proceed as if the symptoms
" arose from worms, or some cause of ir-
" ritation unconnected with the brain."*
Judicious as these remarks are, I would nevertheless be upon the alert sooner than Dr. Cheyne seems to imply. I would keep in view the consequences of a dis-

* An Essay on Hydrocephalus Acutus, by John Cheyne, M. D. p. 89, 90, an excellent publication on this subject.

eased state of the digestive organs upon the brain, before any pain was complained of there.*

Dr. Whytt, without knowing what the early symptoms were which led to this disease, was yet, from his sagacity and experience, fully aware of the great importance of an early discovery of this tendency. " If this disease could be " known early," he observes, " and be- " fore any considerable quantity of water " has been collected, it might, probably, " be sometimes cured;" and, he adds, that " he has never been so lucky as to " cure one patient, who had those symp- " toms which, with certainty, denote the

* I well remember a melancholy instance of mental derangement, producing great sluggishness of mind, in the Lunatic Asylum of the County of Bedford, which arose clearly from great torpor in the functions of the digestive viscera, manifested also by weak and sluggish movements in the circulation; and which was speedily cured, by restoring these functions to their healthy action, by exciting and tonic medicines.

" disease."* This has unquestionably arisen from the symptoms of the disease not being known or understood, until, from their alarming progress, an extensive and fatal impression was made upon the brain. It is also evident, from the same author, that the earlier symptoms were considered as arising from water already deposited in the ventricles of the brain, whence the disease uniformly acquired its emphatic appellation: for I am disposed to believe it an entire assumption, that the symptoms described in page 27 arise from the deposition of water in the ventricles. They are caused by the commencing vascular excitement of the brain, previous to the effusion. The error arose from misunderstanding the causes of the symptoms, which the discovery of water, by dissection, tended to confirm; and the practice,

* P. 46.

guided by this preconceived notion, would be, as the great majority of cases proves, eventually unsuccessful.

Dr. Rush, too, the American Sydenham, was impressed with the idea of the vast importance of detecting the disease early; although the morbid condition of the digestive organs had escaped his observation. He was one of the first, with Quin and Withering, who began to have more correct notions of this disease, by pointing out, with accuracy, the vascular activity in the brain, and the advantages of depletion by blood-letting.* It is remarkable that, notwithstanding so accurate an observer as he was, he no where mentions the very morbid stools brought away in this disease; although he remarks that the bowels are obstinately costive, and that worms are sometimes past; neither are they in general noticed by

* Inquiries, vol. ii. p. 201.

Quin; and by Whytt not at all; and although observed by Fothergill, it led to no curative indication—so completely was the mind occupied by the affection of the head only.* Dr. Cheyne appears to have been the first who directed the attention to the morbid state of the abdominal viscera.

Fothergill, nevertheless, makes this pointed remark; "The head is always "hot from the first attack, and the præ-"cordia likewise;" and further observes, that children pointed to their stomach, when desired to tell where they were pained.† It is singular enough too, that the attention was directed to the state of the bowels, from the general observation,

* See case XX. in the Appendix to Quin, which proved fatal, where it is remarked, that from a dose of calomel and aloes, fœtid dark coloured excrements were brought away in great quantities.

† Fothergill's Works by Lettsom, p. 271,2—an exactly similar statement of the appearance of the stools is given by Fothergill and Cheyne.

that symptoms from worms most strongly resembled those of Water in the Brain.

Light, however, was breaking in upon Dr. Rush's mind respecting this disease, contrary to the received opinions of the day, when he says, " no more occurs in " this disease, than takes place when " hydrothorax follows inflammation of " the lungs, or when serous effusions fol- " low an inflammation of the joints."* This was approaching nearer the fact than any doctrine that had been published, and led to a more judicious and successful practice than had hitherto been adopted; and in Britain, the publication of Quin, confirmed the observations of the American physician.

It is not my intention, Sir, to enter into any theoretical discussion on the nature of the symptoms. This would lead me beyond the circumscribed size of a

* Inq. vol. ii. p. 216.

letter, and draw the attention from the more useful practical objects, intended to be impressed. The anomalies of sympathetic disease are well known, though not sufficiently understood; and the experience derived from such knowledge, has proved of great practical utility.

The doctrine of fatal diseases occurring in one part of the body, from impressions made on a distant part, is not sufficiently matured to be rounded into a system, although enough is known to guide us with much practical advantage.* We all know, both from practical experience, and from the studies in our closet, that a blow upon the head will cause not only sickness and disorders of the stomach, but will introduce a train of morbid actions

* Mr. Abernethy's Surgical Observations may be consulted with great advantage on this subject, and the student will be relieved from the perplexity of contradictory symptoms by its perusal.

in this part of the body, as will ultimately terminate in organic mischief: again, the commonest information will tell us, that a disordered state of the stomach and of the other organs of digestion, will produce a corresponding morbid affection of the organs within the skull, in the form of dimness, and various other imperfections of sight, ringing in the ears, head-ach, giddiness, &c. &c.; and that these subsequent diseases will be violent and dangerous, according to the intensity and continuance of their original causes: sometimes, indeed, they appear to bear no proportion to these causes.*

Taking it then for granted, from this familiar statement, and without entering

* Abernethy, p. 111. Fothergill on the Sick Head-Ach, Med. Obs. vol. vi. p. 103. Warren on ditto, Med. Trans. vol. iv. p. 233. Ferriar on Conversion of Diseases, in the 2d vol. of his Med. Hist.

into any scientific discussion of more complicated sympathies, which I know your intelligence and experience will readily suggest, that it will not be disputed, that diseases not only of a troublesome, but of a dangerous and fatal nature, are thus produced; I proceed to an enumeration of those early symptoms, on the occurrence of which, I am desirous of cautioning the attendants of children in particular, if they are anxious to secure them from Water in the Brain. It must, however, be premised, that, generally speaking, two different causes produce this disease; external and internal. The former are Insolation and mechanical violences, and motion of every kind, which would increase vascular action in the brain, and directly cause disease, giving rise to effusion.* These, if violent, from their sud-

* The effects of course will be dangerous or fatal, according to the violence of the cause, from simple agitation of the

den very troublesome effects, will always arrest the attention, by which every precautionary means will be taken. Such causes, too, are comparatively rare, as directly producing dropsy of the brain.

I may here, however, mention two cases which were published by the late Mr. Ford, in the 11th vol. of the London Medical Journal. The first case was that of a girl, four years of age, who died of this disease, and eight ounces of water were found in the ventricles; the blood-vessels of the brain were not loaded with blood; the child ran about the house as usual, for a fortnight after the accident, in apparent good health. The second, was the melancholy instance of a

brain, to a great concussion of it; and the degree of increased activity of the vessels of the brain, will cause either effusion or suppuration—perhaps neither—and yet death will ensue. A case is related by Mr. Gapper, in the 6th vol. of Med. Memoirs, which the editors of the Med. and Phys. Journal, ingeniously suspect to have originated in Insolation; vol. xv. p. 380.

child, two years old, whose head was struck by the carelessness of the nurse against a bathing tub; disease soon came on, and the child died in ten days. No morbid appearances were observed in the head, except three ounces of water in the ventricles. No mention is made of any examination of the abdominal viscera.

You very justly, however, observe, Sir, in our communications on this subject, and the observation deserves considerable attention, from the connection which evidently exists between the digestive functions and impressions made on the brain; you remark, that with respect to external causes, falls, blows, concussions, you are often tempted to think, that these give the predisposition spoken of, much more frequently than is apprehended. The carelessness of servants, you say, inflict such accidents upon them often; and ninety-nine out of a hundred, will con-

ceal such a misfortune even through their whole life; and even when they have seen the child declining in health, and afflicted with disorders, of which they must have known the origin and progress. It would be curious, you think, to investigate whether Water in the Brain is become more frequent since parents have left off the circular defence round the heads of children. That the brain, thus affected by blows, &c. does influence morbidly the functions of the stomach, both directly and by consequence, is well known to all physiologists, and has been particularly exemplified in a chapter of Dr. Cheston's Pathology, and by older writers.

If a febrile cause supervenes upon or attends, you observe, we can easily understand why the brain, the first seat of the deranged health, should ultimately exhibit marks of the greatest deviation

from its healthy state by pain dependant on inflammation, and effusion as the consequence of it. Although I have never yet, Sir, traced a case of hydrencephalus to external violence, yet I feel no difficulty whatsoever in yielding my belief to the opinion, that such accidents to the head may ultimately produce Water in the Brain; more especially, if they occur at a time when the digestive organs are more easily excited to diseased action; or in persons, who have a constitutional predisposition to morbid action in these organs. Although I know it is not your opinion, that some external cause must always exist to produce this disease; and although I cannot doubt, that it has frequently laid the foundation for that disposition in the brain to put on the action generating hydrencephalus, through the medium, most probably, of an affection of the digestive organs; yet, I believe,

that, in by far the greater majority of cases, the disease occurs more from specific constitutional action, than is to be attributed to such causes. Parents, however, should particularly guard against even slight external blows to the head, especially if they have lost a child from Water in the Brain, as there is a presumption that a predisposition exists in the surviving children. In such families too, it becomes a matter of the first moment, carefully to preserve the digestive functions in a healthy condition, by a proper regulation of the bowels, and by a close attention to diet; that accidental causes, whether external or internal, might not so easily produce a diseased effect upon the brain. Blows upon the head, indeed, however apparently trifling, will lay the foundation for this complaint, by a diseased impression on the liver and digestive organs. Some remarkable cases and

observations in Dr. Cheston's work, assist in throwing light and in confirming your suspicions on this subject; particularly the case of a boy, nine years of age, who after being almost entirely recovered from concussion of the brain and laceration of the scalp, died with symptoms of disease in the digestive organs. On examination, several abscesses were found in the liver, and much disease in the membranes of the brain. "In this case, the symptoms "which immediately succeeded the fall, "were timely removed by the antiphlo-"gistic method; and I think it not at all "improbable," says Dr. Cheston, "that "had the fall been productive of no "other bad consequences, than what ap-"peared at first in the head, the poor "boy would have recovered." "We "frequently see the bad symptoms, im-"mediately succeeding a severe stroke "on the head, in a day or two almost

" entirely removed; yet, that the most " malignant consequences shall ensue, " and this long after, when the patient " has been supposed out of danger, and " even almost recovered:" and he goes on to observe on the above case, " the " wound never degenerated for the worse, " till the abdominal complaints were vio- " lent, and the constitution, from the " additional mischief there, seemed evi- " dently on the decline."*

Whatever may be the effects which external violence produces on the brain, the internal causes are those to which I wish to secure the attention, and which indirectly give rise to Water in the Brain.

* See Dr. Cheston's very ingenious Pathological Enquiries, published in 1766, then Surgeon to the Gloucester Infirmary, p. 36,7,8—a work well worth attention. The reader will find in the Philadelphia Transactions, p. 49, 80, Cases of Hydrencephalus, by Dr. Leib; and also, in Med. Obs. and Inq. vol. iv. p. 78, 321, similar cases by Dr. Watson, which originated from external violence done to the head by falls and blows.

They are seated in the digestive organs, the functions of which become deranged with various symptoms; and of this derangement the hepatic powers, from their great importance, largely partake. From this variety of occurrences in the morbid changes of the digestive functions, and from their impression on the brain not having been rightly understood, have arisen the doubts and contradictory opinions on the origin and commencement of this disease; and notwithstanding the excellent works, (and none have escaped me, at least of those published in this country,) I find in the statement of the cases, all the ingenious authors have commenced the enumeration of the symptoms, at a period subsequent to that to which I wish to fix the attention. Hence it has happened, that the cases have been extremely troublesome in their management, and very frequently fatal. For

want of this timely alarm, precautionary steps have not been taken sufficiently early, to afford an almost absolute certainty of establishing a cure, and the patients have slipped into the disease, before any one was aware of its approach. I am very far, Sir, from imputing a want of attention, penetration or skill; I respect the great abilities of those who have attended to this subject, and from the perusal of whose works, I have myself derived so much information. I do not forget, that although some things have been omitted, much likewise has been performed. It is, however, but recently that the attention of the medical world has been drawn to hydrencephalus as a sympathetic disease, and as one that takes its rise in a very different way from what was originally imagined; and although the bolder lines of the disease, are ultimately from the affection of the brain, we must, ne-

vertheless, look much further than to that organ for the causes. Our progress to knowledge, however correct or imperfect, must always be gradual; and individual exertion in the accumulation of facts, however humble, must ever add to the stock of useful information. "In the "advancement of science, individuals, "perhaps, like ages, make only a cer- "tain progress; they often draw the "outline only of the picture, leaving "posterity to complete the shades, and "put in the colours."*

In the very first commencement of the symptoms, before any alarm is taken, and before any person can possibly imagine, but from experience, that they will often terminate in Water in the Brain, an occasional languor, as if arising from fatigue, with intervals of considerable activity, is observed; it is therefore attributed to this

* Dr. Carmichael Smyth, p. 49.

cause, from the disposition too, which the child manifests, of reclining on the sofa, chair, or lap of the mother; the usual degree of healthy appearance of the countenance diminishes, though not permanently, in a transient paleness and occasional collapse of the features; a dark coloured line is observable under each eye, with a dulness of that organ;* the usual softness and pliability of the skin diminish, with a consequent harshness and increased heat on the surface; the appetite capricious; occasional thirst; state of the bowels more than commonly tardy; the tongue white, and rather disposed to be dry if examined in the morning; the pulse at this period exhibits no particular morbid change, either in its frequency, strength, or regularity; the urine is at times higher coloured than it

* This symptom is mentioned by Quin; see Case XXI. in the Appendix.

ought to be, and from observing that the child has not had an evacuation by the bowels as often as usual, recourse is had to some domestic purgative, and a stool is procured more than commonly consistent and firm, and not in the same quantity as formerly with the same dose of the medicine; no very striking alteration of colour is observable, unless attentively examined, when it will plainly appear that a diseased secretion has already begun to take place in those glands, which pour their secretions into the intestinal canal; at times the evacuation will be throughout, much lighter than it ought to be; at others, only partially so, and again the whole will be more tinged with a darker colour of a greenish cast, and accompanied with some quantity of slimy matter; but more than the mere abrasion of the intestines by a purgative will produce. When any uneasiness in

the head is complained of, it is not of pain either acute or dull, but of a disagreeable noise and confusion; the scalp, at times, feels sore on being rubbed or touched.

During this state, upon examination, a puffiness will be felt, and also a fulness observable over the centre of the stomach, extending towards the navel; uneasiness is complained of there from pressure, but like all the other symptoms at this time, they are not permanent; and the only symptom which observes any permanency, is the torpid state of the bowels, although the degree of it varies in different patients; the costiveness is, nevertheless, always more or less present;* the sleep is frequently disturbed by restlessness, indicated by repeated movements about the bed.† The child is

* Fothergill also noticed this as a constant symptom; Works, p. 272.

† Dr. Rush says that troublesome and distressing dreams very commonly attend; Philadelph. Trans. p. 150.

said to be only not well, and this is supposed to arise from some improper food that has been taken. It is evident we cannot, *a priori*, positively determine what exact state of disease this deviation from general health will ultimately produce; but full well I know, that this irregular excitement, this vacillating state, in the way above described, very frequently leads to the next chain of more manifest morbid actions, which terminate in Water in the Brain. We should be, under such circumstances, most carefully watchful.

I have remarked, that when these symptoms are a prelude to the fatal disease under consideration, the children are gifted with a precision of ideas and quickness of apprehension much beyond their years.* They are thus more interesting

* See Quin, p. 31, 2; also, Med. and Phys. Journal, vol. xi. p. 401, a case by Mr. Bartlett, with extraordinary intel-

objects to their friends, and the loss is more severely felt. Should a practitioner upon his being summoned, hastily dismiss his little patient, with an opinion that the symptoms arise only from a trifling complaint of the stomach, he will again be summoned upon the arrival of the next more prominent set of symptoms, perhaps violent and dangerous, to witness and lament the error of his hasty conclusion.* The duration of this previous state of commencing disease, before it assumes a more arresting shape, will depend upon the accustomed management and habits, as to diet, air, and exercise; and upon the constitutional disposition of

lectual powers—thirty-two ounces of water were found in the brain. Med. Commun. vol. i. p. 404.

* I have read with much satisfaction, in Med. Repository, No. 1, Cases and Dissections of Hydrocephalus, by Mr. Thomson, with very judicious and discriminating remarks. In these cases, a just and useful attention has been paid to the morbid appearances of the abdominal viscera.

the patient, either independent of, or in connection, with these habits. Hence it is, that in some instances the disease runs a rapid course; in others, observes a more protracted duration. In general, from the assumed idea that constipation only is the cause, and from the temporary relief that is obtained from the effect of a domestic purgative, an occasional exhibition of a medicine of this kind, when the child is more than usually distressed, is alone trusted to. In some, from whose constitutions the early impression of morbid action is easily removed, this mode of proceeding will sometimes accomplish the desired object. In by far the majority of cases, however, it is very unsafe to trust to the occasional exhibition of a purgative only; it is necessary to check the forming morbid action of the organs, by the combination of an alterative with the purgative, in such a way as that you shall not

merely remove the accumulated diseased load from the intestines, by several large evacuations at once.

It is with much satisfaction, Sir, I avail myself of this opportunity of paying a tribute of respect to the practice and ability of Dr. Hamilton, the friend of my early life, who has inculcated a similar doctrine in all the diseases on which he has so ably written. As far as the chronic diseases are concerned, my own experience fully confirms the positions of this excellent physician;* that is, the good to be derived does not depend upon many evacuations produced by a strong purgative, but by a gradual restoration of healthy action to the glands of the intestines, and to the alimentary canal. To change the kind of purgative, therefore, has a considerable good effect;

* Observations on the Utility and Administration of Purgative Medicines, by James Hamilton, M.D.

that the different glands, as well as the various portions of the intestinal tube, may be excited by different stimuli; for I am satisfied, it is not the mere evacuation of the accumulated load that produces the desired benefit, more especially, Sir, in the disease which is the subject of the present Letter. With all respect for the doctrines of this justly admired physician, I cannot avoid being of opinion from observation, that a great deal of the advantages derived from pursuing his suggestions, arises as much, if not more, from producing a healthy secretion from the glands which pour their fluids into the intestines, than from giving more regular, at least more evacuating movements to the intestinal actions. It appears to me, that the quantity and quality of the foul discharges do not depend upon stagnation only in the torpid bowels. Morbid secretions are going on;

their mere evacuation, therefore, would not restore health and tone; an alterative effect is wanted: excite the glands to their healthy functions, in addition to the removal of the accumulated load, and salutary evacuations will regularly take place. Discussion is abroad upon the subject, and it promises a wide field of improvement.*

In the state just described, a combination of the evacuants required will occur to every practitioner, with the proper intervals of their exhibition, according to the age of the patient, and the degree of obstinacy in the constipation. I have commonly given the compound extract of colocynth with calomel, or the latter with aloes, rhubarb, or scammony, twice or thrice, or even four times, in twenty-four hours. In ordinary cases of costiveness

* A very interesting work is expected from the pen of Dr. Curry, of Guy's Hospital, on the subject of the Hepatic Functions.

in children, an active combination of purgatives of this kind, thus repeated, would prove too violent; but, under the symptoms which precede the attack on the brain, they do not prove so, as the intestines speedily relapse into their former torpid state, unless the healthy secretions be restored, a circumstance which should make us more attentive; for in proportion as the bowels shew a less disposition to act, so ought we to be the more on our guard: and observation has taught me, that more permanent advantage is to be obtained from managing the intestines in this way, under these circumstances, than from the exhibition of strong purgatives at once, with long intervals of intermission. I need scarcely add, Sir, that it is not necessary in this state that the mercury should produce a general constitutional effect.

This puffiness and fulness about the region of the stomach, I am disposed to

refer to a distention of the duodenum. I am inclined to think that in considering the diseases of the chylopoietic functions, this very important intestine, this ventriculus succenturiatus, has been too much overlooked. Whoever for a moment reflects upon its structure, its great vascularity, its connections, the course it takes, the firm manner in which it is tied down, its pouch, like another stomach, into which the pancreatic and biliary secretions are poured, will immediately see what severe and dangerous diseases must arise, when any continued or frequently recurring deviation from its healthy action takes place. In the reservoir that is formed by the bend in this intestine in its direction upwards, immediately after it quits its course towards the right kidney, are collected the contents from the stomach, the bile, the pancreatic liquor, and the secretions from its own glandular

surface: hence we may safely conclude, that this intestine has a very considerable, perhaps the greatest share, in the digestive process. Any long stagnation of this mass there, to which the duodenum will render its contents more liable, from the extremity next the jejunum being in a course almost perpendicularly upwards, must produce distention, not only from accession of new matter, but from the disengagement of air, the inevitable consequence of stagnation; hence it is, that the duodenum is often found much enlarged on dissection.* And this intestine too, from not being invested by the firm membrane of the peritonæum, will more readily yield to a distending force.

* See Dr. Monro's Description of the Duodenum, Edin: Med: Essays, vol. iv. p. 57; and Mr. John Bell's Anatomy, vol. iii. p. 278. Deficiente enim hoc motu peristaltico (duodeni) bilis quæ continuo effluit, ingenti in copia, accumulata et congesta in hac parte, mirifice intestinum distendit. Hoffman. Oper. Omn. vol. vi. p. 191. De Duodeno Multorum Malorum Causa—a most valuable little tract.

The stagnation of its contents would at times arise, either from the bile not being secreted with its usual acrimony, or from some disease in the intestine itself, rendering it less easily to be acted upon.

You will readily see, Sir, to what important and distressing consequences this will lead, and, if not obviated, how dangerous they will ultimately prove. The irritation of the duodenum will prevent the further flow into it of the bile and pancreatic liquor, by the production of spasm, confining the ducts and causing those pains complained of about the belly. This delay of the contents of the duodenum, of course will impede the flow of the contents of the stomach through the pylorus; a fulness will consequently take place there also, from distention; nausea supervenes, and a soreness is felt over the side and epigastric region, and the distress will be extended by sympathy to more

distant parts.* This distention too of the duodenum will cause pressure upon the large blood-vessels, vena portarum and hepatic artery, which lie immediately behind it; and be it recollected too, that the hepatic artery in its progress to the liver sends off a considerable branch to the duodenum itself, by whose morbid condition the function of this branch must be greatly affected. From the course the intestine takes, pressure will likewise be made upon the gall bladder, bile will be expelled, and thus further contribute to surcharge the ducts.† Your anatomical knowledge, Sir, will readily suggest to you what mischievous effects must be produced by such a morbid impression on this

* Quandoque etiam effectus pravorum istorum succorum, in duodeno primisque intestinis stagnantur, usque ad caput se exerunt, et cephalalgias, vertiginem, torporem omnium sensuum, imo apoplecticos insultus ibi machinantur. Hoffman. Oper. vol. vi. p. 192.

† See Mr. Bell's description of the Duodenum, in the 3d vol. of his Anatomy.

portion of visceral circulation. If this state should repeatedly recur, the other digestive organs will soon suffer greatly, but particularly the liver; it will become congested, its functions checked, and its structure injured by the impeded flow of the bile into the duodenum, and all the local and general consequences of deranged hepatic functions will supervene; and as the biliary duct penetrates into the pancreas immediately before it empties itself into the duodenum, the obstructed flow of the pancreatic fluid from the state of the intestine will distend that gland, thus causing further pressure upon the biliary duct, and consequently increasing the surcharged state of the hepatic system. It is very possible that this morbid condition of the duodenum may recur at intervals for some time before the liver becomes much disordered; hence healthy bile may continue to be secreted, and yet

the fæces will be bad in their appearance, on account of the imperfect digestion of that fluid with the other contents of the duodenum. This repeated distention and disordered condition, will cause an atony and consequent languor in its actions; hence a longer delay of the contents, increasing all the evils.

I have known a dose of calomel, given as a purgative for a pain and fulness in the side, to be followed, on the day subsequent to the evacuations, by much suffusion of bile in the eyes; and this has appeared to me to be produced by the increased flow of this fluid, which the calomel has caused, into the duodenum, and which the intestine has not propelled.*

* Portal past a ligature round the intestine of dogs, below the opening of the duct—in five or six hours the eyes were tinged with bile; Saunders on the Liver, p. 234, 243. And Mr. Bell says, that bile has been found in the trunk of the pancreatic duct; Anatomy, vol. iii. p. 327.

The intestines are generally very torpid after the operation of a dose of calomel, and will continue so under its use, until it accumulates in the bowels, and even then it frequently does not act; for this reason it is, that in the digestive derangement, which takes place in children preceding the attack on the head, I have always found it necessary, and made it an established rule of practice, to join other purgative ingredients with the calomel, to obviate this state of the duodenum in particular, and thus to prevent the bile and its other contents from remaining too long in its cavity. I am inclined to believe, Sir, that a fatal practice has been sometimes adopted from an inattention to this circumstance, and that cases, which have been treated as Water in the Brain by the use of mercury only, have died from the want of the bowels being cleared by proper purgatives, al-

though the mercury shall have done every thing that could be expected from its use, and only its intemperate and unassisted employment has rendered it abortive: hence upon dissection, the head, although previously greatly complained of, has been found free from disease, and the bowels loaded with bilious foulness.

The late Dr. Warren, of Taunton, candidly states, that of the ten cases he attended all died, although mercury was used in large quantities, externally and internally; three or four grains of calomel were taken every eight hours, without producing any purgative effect. On opening the head, water was found in the ventricles; and in one case, two ounces of blood were effused on the pia mater. No account of the state of the bowels is given. I have scarcely a doubt, that the treatment of hydrencephalus in this way, without the combination of purgatives

with the calomel, for the reasons already mentioned, would almost uniformly prove fatal.*

It is obvious, Sir, that if there be a want of proper action in this intestine, the other intestines must of necessity become torpid, and costiveness consequently ensue; for if the bile poured into the duodenum be not freely transmitted, or if it be altered in its proper stimulant qualities, by a morbid process in this gut, the lower intestines must want their usual stimulus for healthy action; hence the accumulation of badly coloured fæces in the colon, with all the consequences of a general inactivity of the bowels.†

Generally, indeed I may say in all cases, by guiding our practice on these

* London Med. Journal, vol. ix.

† In cachectico vesicam biliariam hepati annexam, bile plane vacuam, intestinum vero duodenum humore bilioso repletum adeoque dilatatum fuisse, ut quasi bursam referret. Hoffman, p. 191.

principles, the formation of the groundwork of a dangerous disease, will be speedily and safely removed at this time, and a proper attention to diet and to the state of the bowels afterwards, will be all that is required now that the morbid action is destroyed. It is indeed remarkable how easily the bowels very soon assist themselves in passing off their contents, after the glands have been excited to healthy action, thus aiding the more healthy bile now poured into the intestines, from a better conditioned liver. The delightful surprise expressed by parents at this easy state of the bowels, as well as at the regularity and healthy appearance of the evacuations, proves extremely grateful to the Physician. All children, however, who have once exhibited this particular disposition to morbid action in the digestive organs, should be at all times the objects of peculiar atten-

tion on the least appearance of illness. Fortunate it is, indeed, if it has so happened, that this previous state has been attended to; if not, the chain of diseased actions is lengthened by firmer links more difficult to be broken, but still to be destroyed by discriminating and steady means, though with more time, trouble, and anxious solicitude, before it fixes completely in the brain. The case is not even then to be always entirely despaired of; though, I believe, that when the disease arrives at the point of great excitement of the vessels of the brain with effusion, a majority of the cases sinks hopeless into the grave, after a melancholy protracted struggle, painful to the Physician from his unavailing efforts, and from the deep distress of the mother watching over the convulsive agitations of her daily expiring child.

I confess, Sir, I would much rather in-

cur the charge of having twenty times supposed cases of Water in the Brain, by attacking what I consider to be the early symptoms, than once ultimately become a witness to this distressing scene, by neglect, oversight, or mistake.* If unfortunately this should be the case, the symptoms assume a more formidable and commanding shape: the occasional languor wears more the appearance of permanent lassitude; the returns of activity diminish; the child wishes to be almost constantly in a recumbent posture; the unhealthy look of the countenance becomes more permanent, and more observable in every respect; the darkness under the eyes is of a deeper colour; the excite-

* Dr. Smyth is convinced that his previous unsuccessful endeavours, and those of others, were rather to be attributed to the not having seen, or to not having known the disease at an early period, than to any want of skill in the treatment, or of efficacy in the means employed; p. 70, 1. This observation is more completely verified with our improved knowledge of the disease.

ment from feverish action becomes more regular and more apparent, with the consequent harshness of the skin: occasional flushes pass across the cheeks, sometimes more fixed in one cheek; transient pains are felt in the head, more or less acute, and more or less frequent, and at times when the child will be apparently enjoying itself with comfortable feelings, its attention will be suddenly arrested by this pain, crying out, "Oh my head achs!" Some will complain of the head feeling sore to the touch externally. The pulse now becomes at times much quickened, not particularly irregular; but if carefully examined, and it must be done with some attention, when the child is under the febrile accession, an irregularity will be readily discovered, once, twice, and sometimes more in the minute. Periods of drowsiness supervene; the bowels are more obstinately torpid, and

when stools are procured they are of a very disagreeable smell, and of a very morbid appearance; sometimes a glutinous mass intermixed with dark lumps of fæces, at others there is a mixture of a deep green, with matters similar to yeasty fermentation; their colour and appearance will vary much in the same person at different times. Sickness, nausea, and vomiting are frequently troublesome, either when the little patient raises his head from the pillow, to which drowsiness and lassitude had consigned it, or after taking food, or both. In some, the puffiness and fulness about the region of the stomach, are not now so perceptible, one part of the morbid actions having yielded to others of a more violent nature; this symptom, though common, does not invariably attend; its being observed too, depends upon what portion of the digestive organs are most under morbid action at the

time of examination. All the symptoms bear evident marks of irregular excitement: a giddiness, with an unpleasant cloudiness in the sight, is complained of, and although the eyes exhibit nothing morbid upon examination, a strong light is disagreeable and painful; the urine varies much in colour and quantity, depending entirely on the circumstance of the febrile accessions; the appetite becomes deficient; the thirst troublesome; the tongue white and inclining to be dry. The complaint in this stage of its progress is still manageable, in some easily so, from the circumstances of the previous habits of the child, as already stated; but it must be recollected, that every hour is now most precious, and any moments lost are scarcely to be recovered; for in proportion as the symptoms form more a disease of the head, so is it the more dangerous, and consequently with the greater difficulty removed.

If it should so happen, that an idea is entertained that this assemblage of symptoms arises from foul bowels, without having in view their ultimate consequences in producing a disease of the brain, unfortunate, indeed, will it prove; too late will the error be seen, and frequently fruitless the attempt to correct it. I very greatly fear that mischief has been done by the loss of much precious time, in making too nice a discrimination between the symptoms which lead to Water in the Brain, and the Infantile Remitting Fever, on which Dr. Butter has written so well. As it often happens too, that a worm is passed at this time, it serves to confirm the opinion entertained of the cause, and the fatal delusion decides and continues the inefficacious practice adopted.

Having just closed my attendance upon an interesting little girl of four years of age, the only child of an intelligent wi-

dow, I am sure, Sir, you will willingly read the account of the symptoms, and they were by no means moderate, in this stage of the complaint, as drawn up by the mother.

" The subject of this sheet had been " for ten weeks without having a natural " motion, and the stools were, during " that period, occasionally very dark. " About the end of the ten weeks, she " was seized with drowsiness, which con- " tinued for three or four hours, out of " which she awoke in a very high fever, " attended by retching; nothing would " remain on the stomach; a complete " nausea at any thing in the shape of " food took place; violent thirst. The " motions resembled soot mixed with " boiled spinage, perfectly solid, and " upon remaining, tinged the water of a " dark sap green. The retching and fe- " ver continued for three days, with very

" little intermission, yet they were less
" at times; perhaps the interval of an
" hour might elapse. Calomel had been
" given at the commencement of the at-
" tack, and was continued daily, until
" the motions became lighter. About
" the end of the fourth day all the above
" symptoms subsided, and the little suf-
" ferer became daily better for fourteen
" days. She was again seized with drow-
" siness, a little sickness, but not retch-
" ing—Calomel again procured relief.
" Three days after this second attack, a
" pain in the upper part of the back of
" the head was complained of. She
" could not move, nor stoop without un-
" easiness—easily fatigued—dislike to
" the smell of her food, and great fret-
" fulness—the uneasiness in the head
" was by no means continual, nor occur-
" ring more than four or five times dur-
" ing the day—costive bowels and dark

" stools still as before. Another fort-
" night elapsed, and the fever returned
" with drowsiness—dizziness for the first
" time—could not bear the head off the
" pillow—could not see clearly—objects
" appeared double—the pain in the head
" very troublesome, yet would intermit
" for two or three hours—sickness—pain
" in the sides—heaviness about the eyes
" —burning in the palms of the hands
" and soles of the feet—evacuations still
" dark—flushings of the face—starting
" during sleep—the urine of a high
" bright colour."

It was at this time that I first saw this child, who is now perfectly well.* The repeated returns of derangement in the functions of the digestive organs would, if not subdued, no doubt have ultimately produced the full hydrencephalic excite-

* The fulness and puffiness of the epigastric region, formed a symptom in this case.

ment of the brain; which appears, in fact, to have already commenced.

The plan to be adopted in this stage of the complaint, must vary from the one pursued with the first described symptoms: the degree of activity in exhibiting the medicines must, of course, as in all other complaints, be proportioned to the violence of the symptoms; they must be changed according to the form the disease assumes.* From the feel and condition of the pulse, and from the increased febrile accessions and pain, an inflammatory tension has evidently taken place in the circulating system, requiring the loss of blood; but whether it is to be done locally by leeches, or generally by the lancet, or by both, must depend upon

* "I believe," says Dr. Cheyne, in his excellent work on hydrocephalus, "every different stage, certainly every different form of the disease, requires a considerable difference of treatment;" p. 88. My own observations confirm this remark.

the urgency of the symptoms, the age and constitution of the patient, according to the discretionary judgment of the Physician.

I have directed bleeding, both locally and generally in the same patient, with decided advantage; most commonly, the detraction of blood is indispensable in one way or the other; most frequently the local depletion is called for. I speak from careful observation on this point, and I know, Sir, from what has past between us when conversing on this subject, that your experience will also confirm the fact, when I add that we need not be timid respecting this evacuation, from a false principle that the disease arises from debility. I have never put in force your observation on the propriety of bleeding from the jugular vein in cases where it is possible to use the lancet; having hitherto found general bleed-

ing from the arm, and the application of leeches, answer my purpose very well. This mode of proceeding is also suggested by others, and cases undoubtedly occur, particularly those which are very rapid in their progress, in which this active mode of bleeding would be very useful;* and that general bleeding must not supersede the necessity of local detraction of blood is evident, from the consideration that the activity in the extreme vessels, giving rise to the effusion,

* "In some cases it might be advisable to open the jugular vein, or temporal artery, but I have never yet seen "either of these operations performed in this disease." Garnet, Med. and Phys. Journal, vol. v. p. 128. Morgagni, Epist. vi. Art. 16, states that he has opened the occipital veins with great success, in the distention of the vessels of the head. In a case of hydrencephalus in a boy ten years of age, published by Dr. Blackall in his excellent work on Dropsy, ten ounces of blood were taken from the temporal artery; it was a case of affection of the brain, not uncommon after scarlet fever. These cases are much more manageable than the hydrencephalus from visceral derangement:—the boy recovered. P. 185.

is independent of the action of the heart. You may therefore reduce the strong action of the heart, without overcoming the specific action in the extreme branches constituting inflammation there, and the re-action of this local irritation will wear out the patient.

You may bleed generally till the heart is killed, without destroying the local activity, except by the destruction of the whole system, as is evident from great congestion of the extreme vessels observable in dissections when patients have died of local inflammation, after large general bleedings.* This has occurred very commonly in the brain.

It is upon this principle that topical bleeding is so useful, aided by the pow-

* Dr. Whytt, the great opponent of Haller, and the same who has published on hydrencephalus, has admirably illustrated this subject in a small volume of Physiological Essays, published at Edinburgh in 1755.

erful alterative effects of mercury. The fatal effusions in the brain will be hastened and increased, by permitting this evident inflammatory tension to continue: and from the preternatural vascular activity which also exists in the organs subservient to digestion, (the morbid action of which produces those very badly coloured stools,) the application of leeches to the region of the stomach and liver, as well as to the head, will be found essentially useful. For the same reason it is, that the neutral salts, particularly the sulphat of potash, given twice or thrice in the day, either in the infusion of roses, or in the saline draught, are always preferred by me at this time, to the resinous purgatives; and experience warrants my strong recommendation of them in preference to the latter, which are too heating at this period of the disease; never

failing to give every night two or three grains of the submuriat of mercury.

I was desired to visit a young lady, thirteen years of age, at a school at Dunstable last year, who had been confined about a week to her room and bed, but had been complaining for some time before. I found her with a pulse ranging between ninety and one hundred, occasionally hurried and intermitting; sickness, irregular febrile accessions; head-ach, sometimes dull, and sometimes very acute, producing very restless nights, with a torpid drowsiness; light painful to the eyes; a foul appearance of the tongue; no appetite, thirst; bowels very costive, and the evacuations very gelatinous, mixed with degenerated bilious discharges; urine high coloured; a fulness about the region of the stomach, with soreness on pressure there as well as over the liver. This patient was bled from the arm with

relief to the acute pain of the head; had also leeches twice to the temples and to the epigastric region, and by the use of saline medicines with mercury till the gums were affected, and the occasional exhibition of active purgatives which the very torpid state of the bowels required, completely recovered; but was for some time in a weak state. This young lady lost a brother from Water in the Brain two years before, and the mother, from the exact similarity of symptoms in this instance, became alarmed at an earlier period. From the obstinate costiveness which at this time prevails, it will be found necessary to interpose, twice in the week, a purgative draught, different from the neutral salts daily given in smaller doses, and which, on the day of the purgative, should be omitted; taking care, however, never to omit the mercurial at night. I almost always compose this

draught of infus: sennæ, potass: tartrat: and tinct: jalap:

I have uniformly found, in all inflammatory complaints, a combined exhibition of calomel and the neutral salts given in small divided doses, a most powerful antiphlogistic; and that increased local vascular action takes place in various parts of the viscera of the abdomen in this complaint, is to me indisputable, not only from the symptoms, but from the less equivocal signs observed in dissections.*

I have said nothing about the application of blisters. I am persuaded, Sir, it is a matter of nice discrimination to apply them; I would not therefore appear to sanction their application by indiscriminate recommendation; it may, however, be stated, that full evacuations should be premised before they are had recourse to.

* Cheyne, p. 152, 183, 203, 206, 210.

The diet at this time should correspond with the medical treatment; no spicy or spirituous stimulants, nor animal food, should enter into its composition, unless it be the latter in a liquid state, in the form of broth occasionally, and even in this way it should be entirely omitted if the pain and vascular tension be great. After pursuing this plan for the requisite time, which the decline of the morbid symptoms will point out, it will be generally necessary to give a tonic about twice a day for a short time, the kind and composition of which will occur to every Physician. I may, however, mention that it is advantageous to join an opening medicine with the tonic, sufficiently to ensure a daily regular intestinal evacuation. A few grains of columbo or cascarilla, with two or three grains of rhubarb or aloes, twice a day; or if the increased action has run high, or any disagreeable

heat remain, an infusion of either of the two former, or of quassia with a neutral salt, the Epsom the best at this time, will be the preferable composition. A gradual return to a more substantial diet, will at the same time be adopted.

Upon a steady perseverance in, and a judicious application of, the remedies to the degree of violence and variation of the symptoms during the whole of this period, will depend the safety of the patient; by the prevention of the progress, sometimes very rapid, to the next stage of their increased activity, danger and too frequently fatal consequences. The accession of this state is marked with greatly increased violence, and with great suffering to the patient: the heat of the skin becomes more intense and harsh; febrile accessions more violent and distressing; the pains of the head more acute and more frequent in their return,

and the loud screams of the child on this account are truly afflicting; the pupils of the eyes shew great dilatation, but still contract on the approach of light, though not healthily, by a waving languid vibratory motion; a squinting takes place at times; double vision is complained of, and when the child is desired, though not seeing double at the time, to view an object, I have noticed that he sees the object not where it really is, but on one side of it, by pointing to the spot;* a knitting of the eye-brows, with an expression of countenance indicative of great distress; for a few minutes there will be a perfect silence and quietism, with a fixed steady stare of the eyes, and a very great dilatation of the pupils, when a sudden start will take place, with a loud screaming and a quick tossing of the

* The same symptom is mentioned by Mr. Ricards; Med. and Phys. Journal, vol. v. p. 343.

arms over the head; frequent moaning; deep sighing; sickness and vomiting; bowels most obstinately costive; the evacuations when procured are very scanty and ill formed, and extremely offensive; and when it happens that by any active means a good mass is brought away, it looks like any thing but fæces, being dark, yeasty, and gelatinous, smelling like a mixture of sour grains with putrid matter; the tongue foul, sometimes brown and dry; much thirst; no appetite; the urine irregularly secreted, both in colour and quantity; the pulse is very irregular, both in the tone of the vibration and in the flow of the blood; sometimes slow, sometimes quick and intermitting with a tensive feel, until it at last sinks into permanent sluggishness, ushering in its ultimate and fatal celerity; a dewy moisture settles in drops upon the upper lip and around the nose; a considerable wasting

of the flesh has taken place; the countenance pallid and sunk, with a hollowness of the temples; blueness of the lips, with their frequent retraction from an attempt but inability to cry, ending in a whining tone from weakness; the eyelids half open and motionless; the eyes filmy and fixed with a peculiar stare from the extreme dilatation of the pupils; the circulation is extremely hurried; convulsions frequently take place; palsy supervenes, either partially or generally, and death, most commonly in one convulsive struggle, closes the painful scene.

In the commencement of this melancholy state, it is unnecessary for me to say how much will depend upon the judgment, prompt discretion, and vigilant attention of the Physician; for deplorable as this condition is, the recovery of the patient should not be considered as completely hopeless, were it only on ac-

count of the recovery of cases, under apparently similar circumstances. Every attempt should be made by repeated application of leeches to the temples, by general bleeding if the force of the heart will bear it, and by blisters to the head, to be kept open, to diminish the vascular excitement in the brain. I once thought, before experience had corrected the idea, that when effusion had once taken place, the recovery was nearly hopeless; but from cases which have come under my care since this opinion was formed, I believe that when death speedily ensues, it is owing to this morbid excitement destroying the energy of the brain, not meaning to deny the evil effects of effusion.*

* Dr. Quin states two cases of persons who died with all the symptoms of hydrencephalus: no water was found on dissection, but the blood-vessels were so unusually distended, that the whole brain resembled an anatomical preparation; p. 50. The same facts occurred to Dr. Percival; see Med. Facts, vol. i. p. 127, and the whole of this amiable physician's statements, from p. 111 to 133.

A little girl of seven years of age, was made an in-patient of the Bedford Infirmary for total blindness and a semi-paralytic state of one side. Nothing was remarked in the eyes, except an unnatural permanent dilatation of the pupils; her pulse was preternaturally slow; she was in perfect health in every other respect. From the account of the symptoms of her previous disease, received from her parent who brought her to the House, there was not the least doubt that this blindness was the consequence of an hydrencephalic attack. I considered the blindness as arising from the pressure of the effused fluids on the optic nerves; it is not improbable, however, that either the structure of those nerves, or of the neighbouring parts affecting them, was injured by the preceding vascular activity. The excitement of the system by the mercury, and all the other means

used, (galvanism was one), proved ineffectual.

It is evident that mere effusion into the ventricles of the brain does not speedily cause death, from instances of this kind, as well as from what is termed serous apoplexy. There is no doubt, however, that a portion of the fluids found in cavities, has been deposited there by transudation after death. The pressure of the fluid will sometimes be so great, as to separate the bones before death takes place, even after they have been firmly united. The late Mr. Ford* relates the case of a boy, nine years of age, who died of this disease, in whom, for six weeks previous to his death, the sutures of the cranium began to give way, particularly the coronal, between the indentations of which there was a considerable vacancy. On opening the head

* London Med. Journal, vol. xi. p. 56.

after death, there was an intervening space of half an inch between the bones of the coronal suture; and in the angle formed by the meeting of the lambdoidal suture with the sagital there was a still larger space unoccupied by bone, the occipital bone being quite detached and moving easily on the parietal bones; vessels of the pia mater were turgid with blood at the hind part of the head; the ventricles contained twelve ounces of clear lymph; the fæces past by this boy were of a very black colour. A similar remarkable case is published by Dr. Baillie in the 4th vol. of the Medical Transactions. The boy whose case is above related, was, however, two years older than Dr. Baillie's. It is a curious coincidence, that in both cases, at the edges the processes of the sutures were fewer in number, than is usual in children of those ages, which so far confirms Dr.

Baillie's correct remark, that had these processes been more numerous or irregular, such a separation of the bones would not have taken place.

I am persuaded that the chance of cure depends greatly, perhaps altogether, upon the arrestation of the excitement of the vessels of the brain, before the effects of depletion become doubtful and dangerous from the debility which ensues, and before much effusion has taken place. Together with the judiciously repeated application of bleeding and blistering, as already stated, a diligent use, both internally and externally, must be made of mercury, which, when the constitution is influenced by it, powerfully assists with the other means used, in altering that morbid excitement constituting the disease.

These, with a watchful attention to see that the bowels are daily emptied, are the

means resorted to, and sometimes with success; and although there shall be every appearance that effusion has taken place, the patient not unfrequently completely recovers, by the use of those medicines which carry off effused fluids, more especially when the constitution is under the influence of mercurial action. I must, however, observe that I have known the patients die after the mercury has plentifully affected the mouth; and they have recovered with no signs of an affection of the gums by the mercury, although a very large quantity had been used. There is no doubt, however, that notwithstanding the mouth is not affected, much is introduced into the habit. The circumstance of bleeding producing a state of the constitution more favourable to mercurial action, is worth attending to: the observation appears to me

correct.* High action of the system seems to prevent the salutary effects of mercury we have in view. I have known the mouth speedily affected in acute rheumatism on bleeding the patient, when it had before resisted it; and notwithstanding the plentiful use of it exhibited in syphilis, I have seen the constitution resist its effects with some danger to the patient, when he is under much excitement from daily indulgence in spirituous stimulants.†

With respect to diuretics, I lay no stress upon them as such, unless you can reduce the vascular excitement in the brain. I have seen death take place with much flow of urine. They are neverthe-

* See Cheyne, and M'Gregor's Medical Sketches.

† See a case of this kind by the author, in Duncan's Annals of Med. vol. 2. Lustrum 2. p. 400. The mouth became sore in five days on withholding the stimulants, under the use of which his constitution had resisted the effects of mercury, though employed for a month.

less useful from counter-irritation, by increasing the secretion of other glands. The digitalis requires consideration, on account of the other peculiar effects of this valuable and extraordinary medicine.

One of the worst cases I ever saw recover, was that of a fine boy three years of age: the mother was travelling with her little charge, who is naturally gifted with great liveliness and vivacity, and finding him frequently dull and complaining and indefinitely ill, had recourse to hurried assistance during her tour, and the complaint being considered trifling from want of time for investigation, her anxiety, for this deviation from his usual alacrity and good health, was quieted. Instead, however, of subsiding, the vacillating state of bad health became more permanent; and soon after their arrival at home, I saw the child, with all the symptoms of an affection of the brain,

evidently connected with a highly morbid state of the digestive organs. The disease, with little variation, gradually became worse; the head violently affected, great screaming, with frequent tossing of the hands over the head; till at last, with widely dilated pupils, loss of sight and paralytic, his dissolution was daily expected: the child, however, recovered, and is now in perfect health. Mercury was very liberally used, both externally and internally; and leeches were repeatedly applied to the head and to the epigastric region; the head was shaved, and a blister applied over the whole of it, and kept open; and to these were added, the assistance of saline, diuretic and purgative medicines. Although a very considerable quantity of mercury was used, no salivation took place;* and as reco-

* A case of recovery from this disease is stated in Med. Memoirs, vol. xiv. p. 403. of a child, one year and a half

very approached, the intestines were more easily acted upon, and the evacuations exhibited a more healthy appearance. It was a matter of gratifying curiosity to observe the gradual return of his sight and of his ability to walk, and his tottering gait for a time, after he attempted to run alone. Had an opportunity offered for an early and proper attention to the deranged functions of the digestive organs, I am persuaded this very serious and nearly fatal attack would have been prevented.

There is not, I think, the least doubt, Sir, that if an irritation takes place in any one portion of the organs subservient to the digestive process, whether it be in the glandular parts or in the hollow viscera, it will produce a general effect

old, in whom no salivation took place, although six ounces and a half and ten grains of mercurial ointment, and thirty-six grains of calomel, had been used.

proportioned to the degree of irritation. The continuance of this partial irritation, will gradually excite into morbid action all the contiguous parts, thus enlarging what I may call irritation by contiguity. The whole of the digestive organs will thus ultimately be morbidly affected, when will commence irritation from sympathy by affecting the brain.* The liver, as one of the most important organs in every way, will partake most largely of this irritation, both by contiguity, if the irritating cause has not commenced in itself, and by sympathy; hence, as its secretion is the most obvious from its sensible qualities, we the more readily

* Taking the subject in a more enlarged view than that to which this letter necessarily confines it, it may be added, that other organs become affected sympathetically, the lungs for example, producing coughs and asthma, from the connection of the par vagum with the pulmonic plexus of nerves. This mode of viewing diseases has given rise to the best treatise on Asthma—Dr. Bree's very ingenious work on Disordered Respiration.

perceive the changes produced by this morbid state.

The importance of the healthy functions of the brain needs no comment; the whole body must more or less partake of the injury done to it, but more particularly those parts which have previously laboured under morbid impression; hence those very parts from which the irritation was originally propagated, become again and more violently irritated.

It is a matter of no consequence as to the production of the hydrencephalic state, in what portion of the digestive organs the original derangement of action shall commence; as, if not subdued, the other parts discharging the same office will, ere long, be similarly affected: but this difference is a matter of importance with respect to the facility of cure, in as much as the simple is more reducible

than the combined irritation. The same observations will apply, with equal, if not with greater force, to that condition of the brain caused by external violence, and producing a morbid state of the digestive functions. I believe too, that when the impression is made upon the brain by a portion only of the digestive organs being in a state of diseased action, the hydrencephalic disposition will be more easily cured from a less intensity of cause, than when that disposition arises from the whole of the chylopoietic organs being under morbid action; although the symptoms upon the brain will be, by continuance, to all external appearance the same. Hence it is, I think, that extremely severe cases have terminated favourably, when others, equally or less severe in appearance, have ended in death.

I have known very severe symptoms

of this disease, most clearly produced by visceral derangement, speedily removed by procuring healthy intestinal evacuations; these being procured easily by the proper exciting medicines. I have known similar instances both in age and constitution, either terminate in death, or that event kept in suspense for a long time, from the impossibility or difficulty of making this salutary change in the glandular functions of the digestive viscera, with the employment of the same means. I believe this difference of event is produced by the quantity of mischief which the irritating deranged actions have done to the digestive organs. If they have been so long continued, or so violent as to produce much derangement of function, it is very clear that the patient will more likely sink, not only from the intensity of the cause producing the sympathetic irritation in the brain, but from

the longer time it will require to subdue not only a greater but a more established disease. In dissections, therefore, various parts of the abdominal viscera are most commonly found much diseased.

I am, however, Sir, aware that sometimes little or no diseased appearances are observed in the digestive organs from dissection.* Not meaning to deny that the action producing Water in the Brain may commence there, without its being produced sympathetically, as well as any other organ may have the commencement of disease in itself; there is no difficulty in accounting for this. It is well known that morbid irritations are more quickly transmitted from one part of the body to another in some persons than in others, from the greater susceptibility of impression with which their constitutions are gifted: every Physician can furnish him-

* See Dissections at the end of Dr. C. Smyth's Treatise.

self with examples of this kind.* It is moreover indisputable, that very high irritations will exist, without the part which suffers from them shewing any marks of disease, from dissection. If therefore, the constitution of such persons, should unfortunately be the subject of this derangement of the digestive organs, the irritation will more speedily be transmitted to the brain; the vascular activity there will be excited to greater violence, as is, I believe, uniformly the case with morbid actions in such constitutions; the disease will more quickly run its course, and it is probable that under such circumstances, few, if any, diseased parts will be found in the abdomen. These cases are comparatively rare.

Undeniable proofs of high irritation,

* See Mr. Abernethy's Surgical Observations, where this subject is well illustrated; and Dr. Ferriar's ingenious observations on Conversion of Diseases, in his Medical Histories.

both locally and generally, are exhibited during the period of teething. During the existence of this irritation, considerable morbid changes are observed in the appearances of the intestinal evacuations. It frequently, too, produces great inflammation of the lungs: I have been often alarmed for children under such circumstances.* Should death be the consequence, and dissections discover marks of inflammatory action in this part of the body, it will not be denied, I think, that the original cause arose in a distant part. The same may be said of abscesses in the liver, from injuries done to the head. Apoplexy is not uncommon from a liver affection, and it is not a little remarkable, that persons who die from a liver disease, generally die comatose.†

* See Underwood on the Diseases of Children, vol. i. p. 224.

† I well remember the case of a gentleman, who was seized with a complete apoplectic fit: he recovered from

I have, in a great variety of instances, removed troublesome coughs, by attending to the condition of the chylopoietic secretions. One remarkable case now presses itself upon my mind, of a young woman in the Bedford Infirmary many years ago, who had been in the House some time with every symptom of apparently confirmed phthisis; it occurred to me, from some anomaly in her symptoms, that this alarming state might be kept up by some latent disease below the diaphragm: with an expectoration apparently purulent, a teazing cough and night sweats, she was put under a course of mercury as a forlorn hope;—my surprise was great on her recovery.*

it; but died of a schirrous liver with hydrothorax some time after. I saw him in both instances; he expired after lying in a comatose state for two or three days.

* See the case related by Mr. Abernethy; Surgical Obs. p. 197. Also Mr. Paisley's letter, giving an excellent account of the liver-cough, in Dr. Saunders's Treatise on the

In cases of long continued deranged functions of the digestive organs, previous to the excitement of the vessels of the brain, portions of the abdominal viscera are almost always found diseased. The appearances of bodies which I myself have witnessed, as also those related by others, confirm the truth of this observation.* The varied appearances of the evacuations, may also be accounted for from similar causes.

Liver, p. 55. The following quotation from the accurate Hoffman is too correct and apposite to be passed over. Descanting on the evil effects of an accumulation of bilious matters in the duodenum, he adds with much justness—Ab eadem bile æruginoso stagnante, tusses stomachales, chronicæ et ferinæ non modo in infantibus, sed etiam adultioribus oriuntur. Eædem sæpe intermittentibus et hypochondriacæ affectioni se associant, quo in casu omnia dulcia pectoralia plus damni quam emolumenti afferunt; p. 192.

* See Cheyne, passim. Abernethy, p. 192, 3. Also two well drawn up and instructive cases by Mr. Davis, Med: and Phys: Journal, vol. viii. p. 98. The history of these cases is taken up before the affection of the head commenced. Also Mr. Thomson's dissections and apposite remarks, Med: Repository, No. 1.

Although the liver, both from its size, the large mass of blood passing to it, and from its important functions, must greatly partake of this derangement, unquestionably altering the quantity and qualities of its secreted flúid; yet we must attribute considerable changes in the evacuations, to the morbid actions of the other glands which pour their secretions into the intestinal canal; and also some variation in smell, colour and quantity of the discharge must take place from the circumstance, whether the glands pour out their diseased secretions in consequence of simple irritation only, or from disorganized structure; there must be considerable modification from these causes. In whatever way that very important organ the liver may be affected, the affection will undoubtedly have, sooner or later, very considerable influence on the system at large; and though this is of

much importance, not from diseased bile only. When the peculiarity of its own circulation, and the great proportion of the mass of blood, both arterial and venous, occupied by it are considered, a disturbance in any way of this quantity of fluid passing through it, must make a corresponding impression upon the whole circulation of the body, independent of those sympathetic irritations to which a living machine, from the intimate and vital connection of all its parts, is subject.

It is evident, when any great resistance is made to the flow of the blood through the liver, considering the quantity too which goes there; or when its functions are so much deranged as not readily to transmit the blood it receives, that congestion must take place in the other blood vessels; hence the apoplexies, local congestions, and hæmorrhages, which occur

in such cases. I have known patients in liver diseases complain of a good deal of pain in the left side, in the region of the stomach and spleen. It is clear that this arises from the superabundant quantity of blood thrown upon the gastric and splenic arteries from the cœliac, as its usual quantity cannot pass along the hepatic artery, in consequence of the obstructed liver; and this obstruction, if extensive, also prevents the vena portæ from discharging its contents, received from the splenic vein;—another cause of congestion. For the same reason, a greater quantity of blood will be sent to the head by the carotids, the cœliac being prevented from passing on that which it receives from the aorta; hence the giddiness, bleedings at the nose, &c. I recollect a gentleman of fifty-five, who had long laboured under a deeply obstructed liver, and who died very suddenly and

unexpectedly, in about two hours from the rupture of a vessel, evidently arterial, in the mouth, and which appeared to be the lingual artery. He was much reduced before this event occurred.

The distribution also of the nervous influence to the digestive organs, is as closely connected as the distribution of the circulating blood; for the semi-lunar ganglion, forming the great central plexus of nerves which surrounds the root and branches of the cœliac artery, being derived from the great sympathetic, and connected also with the par vagum, sends its communicating branches to the liver, spleen, stomach, pancreas, and duodenum. Be it remembered too, that the nerves which pass to the lower orifice of the stomach and duodenum, is a branch of the right hepatic plexus, derived from the same origin at the cœliac union. We can easily see then, how any distending

or other cause which irritates any one of these viscera will readily affect the others, independent of mechanical pressure from obstruction to the circulating blood; and how all will be speedily brought into a morbid condition by a continued affection of any one of them. And as the energy derived from the sensorium concentrates in the connecting medium of the cœliac plexus common to all the digestive organs, the manner, in which the whole of these viscera become morbidly affected by any injurious impression on the brain, is not difficult to be understood.

This effect will be the same, whether that impression be from an external cause, or proceed from any one of the digestive organs. For it is easily conceived, that if irritation be transmitted to the brain by a morbid state, for example, of the duodenum, the fountain of nervous influ-

ence will return the irritation through the medium of the intimately connected branches of the semilunar ganglion; and thus the whole of the chylopoietic organs will be thrown into morbid derangement, both by nervous irritation and by irregular distribution of the blood. We can in this way understand, how the symptoms will vary in that state of chylopoietic irregularity, which precedes and accompanies the affection of the head in hydrencephalus. This anatomical view of the subject, both by blood-vessels and nerves, assists too in affording an explanation of the interchanging symptoms which attend diseases of the liver or stomach, whether they arise in either of these organs, or from impressions on the brain.*

In some paralytic affections, which gradually creep upon the constitution when

* Cheston, p. 41, 144.

the head becomes affected, a very considerable derangement takes place in the digestive functions. I have seen the stools often of a dark mahogany colour in such cases; and in a recent case, in which the palsy had lasted four years, a complete jaundice with much tenderness over the liver supervened, not attributable to any impropriety of proceeding on the part of the patient, and who had also been under judicious management: although the cure of the jaundice in this instance, and the restoration of the healthy appearance of the evacuations in the others, rendered the patients much more comfortable and tranquillized in their feelings,—no impression was made upon the paralytic state. It is difficult to say, in cases like these, where the disease originally commenced; they form instances of masked disease; but I have known anomalous paralytic and numbning sensa-

tions, removed by procuring and preserving healthy evacuations:—but to return from this digression, into which the beautiful symmetrical arrangement of the human body will always lead us, when we indulge in its examination.——

Notwithstanding the very sensible qualities of the bile, both in a healthy and diseased state, we should be cautious in concluding that the different appearances of the evacuations always depend upon a variation in these qualities. The bile may be healthily secreted, and yet it will not give the proper healthy appearance to the evacuations, from the alterations it will undergo from the diseased secretions it may meet with through the whole track of the intestines, before it passes off with the fæces, in addition to what has been already stated on the functions of the duodenum. In the same manner as healthy

urine will put on a morbid appearance, in consequence of being mixed with diseased secretions from the bladder: some kinds of food too, will give an unhealthy appearance to the evacuations: we should not, therefore, hastily conclude that the bile is in fault when this occurrence is observed.

That the specific action of scrofula, Sir, will give rise to Water in the Brain, as well as to other diseases with which the human constitution is afflicted, experience abundantly shews;* but, I cannot say, that scrofulous subjects are more liable to this disease, than others uninfected by it. Hydrencephalus is, probably, more difficult of cure in such subjects, as other diseases connected with this habit also are. I recollect a marked case of a

* Cheyne, p. 179 to 191, 208, 210. Dr. Percival states, that of twenty-two cases he attended, eleven were strumous; Med. Facts, vol. i. p. 129.

connection of this kind, which occurred to me several years ago: I was desired to visit, in Bucks, an interesting and beautiful little girl of eight years of age, the only surviving child of a fond mother, who had lost her other two children in what complaints I know not, never having visited the family before. I found the little girl labouring under much febrile excitement, connected with a visible morbid irregularity and protrusion of the vertebræ of the lumbar region, and accompanied by a tottering hesitation in her gait when she attempted to walk. An attention to the state of the chylopoietic viscera, adapted to the state of the febrile accessions, with the subsequent insertion of issues in the back, and a course of sea bathing, restored her to good health, the lumbar distortion continuing. Above two years after this, I was again summoned to see this child, whom I found with all

the usual symptoms of the last stage of hydrencephalus, and who died within a week after my visit. I was not permitted to open the body.*

That many painful sensations and serious complaints are produced in the brain by an impression from other diseased organs, experience fully confirms. It appears to be the extent of disease in the brain, to which this impression gives rise, that creates objection. To mention one case among many others: a lady, who for a series of years had laboured under very painful derangement of the digestive functions, in which the liver had suffered greatly, discovered a defect in the vision of both eyes, attended with a sense of fulness and tightness across them, and occasional distressing pains in the back

* See Duncan's Annals of Medicine, vol. iv. p. 452, for a case very similar to this, by Dr. John Haxby, of Pontefract.

part of those organs. The vision was more defective in the right eye, which also suffered most in the other symptoms. I had no doubt that all this arose from the hepatic disease, and that no cure could be effected but by an alteration in the morbid condition of the digestive functions, those of the liver suffering the most.*

That vascular excitement of the vessels of the brain, with consequent effusion of water into the ventricles, does take place, and that such a state of the brain is connected with the disease termed hydrencephalus, is fully proved, as far as can be determined from the nature of the symptoms, and the appearances on dis-

* In a consultation with Sir William Adams the oculist, on this case, I was assured by him, that his experience had also confirmed the truth of this position in other cases, and that the application of remedies, except through the medium of constitutional improvement, would have no permanent effect:—it has proved so.

section. If a person, after complaining of much pain, suppose of the abdomen, with all the concomitant circumstances attending a febrile state, should die, and dissection should shew the peritonæum covered with turgid blood-vessels, and a watery fluid in the cavity of the abdomen, I should think it would not be denied, that these appearances arose from vascular excitement, with the effusion consequent thereto.

That similar symptoms, with similar appearances from dissection, take place in hydrencephalus, are undeniable, from the experience of Physicians, both living and dead, and which anatomical examinations by myself have confirmed. But the objections chiefly arise from the ideas entertained that its cause is debility, by which general dropsy is produced. No one can refuse his assent to the opinion that hydrencephalus will take place from

causes which produce other dropsical effusions, allowing the same morbid alterations to the functions of the vessels of the brain, as to those of other parts of the body; but, it is not in this way, I think, that hydrencephalus as a common occurrence in children, is generally produced; it is more a specific disease.*

Although experience proves that hydrencephalus occurs at almost any period of life, yet it is much more the disease of children than of persons of more adult age. On the contrary, I believe it is equally a fact, that children are not so liable to general dropsy, and that it oc-

* "It is a disorder that happens, so far as I have had an "opportunity of observing, more commonly to healthy, "active, lively children, than to such in whom, from pre-"vious indisposition, there is room to suspect an unequal "or weakened absorption:" Fothergill's Works, p. 273. But, "I suspect," says Dr. Blackall, "that hydrocephalus "originates much less frequently in this constitutional dropsy "than in other causes:" see a very ingenious work on Dropsy, by Dr. Blackall, of Exeter.

curs more frequently in those of maturer years.* Dropsy, properly so called, is comparatively a rare disease with very young people, who are commonly the subjects of hydrencephalus; it is therefore so far, I think, evident that in them hydrencephalus is not usually connected with the dropsical diathesis.

Dr. Quin did not believe any connection to exist between a general hydropic tendency and hydrencephalus; and Dr. Rush has well observed, "I am forced "to adopt this opinion, from my having "never seen it accompanied by dropsical "effusions in other parts of the body, "nor a general dropsy accompanied by "an internal dropsy of the brain."† It

* I have seen, says Dr. Baillie on Ascites, several instances of it in children under ten years old; but it is much more common at the middle and more advanced periods of life. Morbid Anatomy, p. 74.

† Inquiries, p. 216. See Dr. Baillie's Morbid Anatomy, p. 304.

is a known and curious fact, that the fluid in health found in the ventricles of the brain, does not contain coagulable matter by the test of acids; but that when an accumulation of fluid takes place there from hydrencephalus, a coagulable precipitation is produced by the application of such tests. It is evident then, that this morbid effusion is caused by an action of the vessels, different from that which produced the healthy deposition of fluid, which is not coagulable, and which therefore, not only increases the quantity, but alters the qualities of the effused fluid.

The watery effusions which take place after scarlet fever, are produced in an analogous way to the effusion in hydrencephalus. There is no doubt of the great morbid activity of the extreme vessels in this disease, and the dropsical effusions are the consequence; if the morbid excitement be speedily removed, there are

no dropsical consequences; if it be protracted, watery effusion most commonly takes place, into some of the cavities or cellular membrane. The very same appears to me to occur, as cause and effect, in hydrencephalus; if the complaint be speedily removed, we have not usually those symptoms which denote effusion into the ventricles; if the child survives with a protracted disease, the symptoms connected with effusion occur. The analogy appears to me very striking, as far as the increased activity of the extreme vessels, and deposition of fluid are concerned; and it is not at all uncommon to have strong symptoms of Water in the Brain after scarlet fever—I have frequently witnessed them.*

* See Withering on the Scarlet Fever, 2d edit. p. 27. Also, the Med: and Phys: Journal, for Nov. 1801, p. 420, Cases of Dropsy after Scarlatina, by Dr. Skrimshire—on examining one case that died, four ounces of water were found in the pericardium, and the same quantity in the

The opinions which prevailed, that the original cause of dropsy was always debility, gave rise to a uniform mode of practice, not always consistent with the symptoms. A doctrine is gaining ground, and we may look to it with advantage by practical application, that bleeding is beneficial in some species of general dropsy, and which may be termed inflammatory, from evident marks of vascular activity. I have experienced decided advantage from bleeding, and the antiphlogistic treatment, in the dropsies to which I allude.*

I hope, Sir, that neither you, nor any into whose hands this letter may chance

cavity of the thorax, and six or eight ounces in the abdomen; the dropsical effusion was shewn to be the serosity of the blood with the fibrin, deprived of the colouring particles and the albumen.

* See Dr. Blackall's work on this subject, p. 277. Annals of Medicine, by Duncan, vol. i. p. 176. Dissertatio Medica de Hydrope Plethorico, auctore C. J. C. Grapengiesser, M.D.

to have the honour to fall, will imagine, from the observations I have made on the facility with which this disease may be prevented by an early attention, that therefore I consider it as one of very easy management: it is in a great measure so, indeed, upon an early detection of the symptoms. There is however, perhaps, no disease from the commencement of the morbid actions to their termination, which requires a more guarded prognosis, and from the varying symptoms, which calls for a more vigilant attention. The almost imperceptible manner in which the symptoms, at first mild and apparently trifling, run into violence and danger, particularly when the disease pursues a rapid progress, requires prompt decision, with a watchful and discriminating eye. The danger is at hand, before we are aware of its ap-

proach, and the child sinks suddenly into a fatal disease.

In its more gradual approach, the advance will be equally deceitful, though from being more protracted, the attendants will be aware of the illness of the child, but not prospectively guarded against its ultimate dangerous consequences.

I have now, Sir, without entering much into speculative doctrines beyond what was unavoidable from a reference to the opinions of others, submitted to your perusal, a statement of facts which the experience of practice has brought to my knowledge. If the grain I throw into the scale, shall at all assist in fixing the attention upon those first signs of deviation from a healthy condition of the digestive organs, which lead to Water in the Brain, I shall gain the object on account of which I have troubled you

with this Letter; for I feel persuaded that an early attention to these symptoms will save the Physician many a painful and fruitless visit, parents the anguish of many an anxious day, and society, probably, the loss of valuable lives.

Having thus brought this long Letter to a conclusion, and having troubled you with references to authorities, unavoidable from the important nature of the subject, and from the contradictory opinions entertained concerning it, I would apologize for trespassing on your time, did I not know you to be anxious to add to our stock of knowledge by investigation. I feel happy too, after an absence of many years, in renewing through you, who first seriously suggested to me to enter upon that profession to which I have the honour to belong, my acquaintance with Alma Mater; and it is a source of sensible gratification, to call to

my recollection those years of my younger days, which I happily spent in study under her sacred and respected groves:— Inter sylvas Academi quærere verum.

I have the honour to be,

Dear Sir,

With great respect and esteem,

Your very faithful

and obedient Servant,

King Street,
St. James's Square,
Nov. 23, 1814.

G. D. YEATS.

SMITH and DAVY, Printers, Queen Street, Seven Dials.